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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/375,867	08/17/1999	CHARLES D. LANIER	ASTRP.235RC2	5707

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EXAMINER	
INGBERG, TODD D	

ART UNIT	PAPER NUMBER
2122	

DATE MAILED: 12/31/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/375,867	Lanier et al.
Examiner	**Art Unit**
Todd Ingberg	2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Apr 24, 2001* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *26-31, 33-35, 45-47, and 49-59* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *26-31, 33-35, 45-47, and 49-59* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
18) ☐ Interview Summary (PTO-413) Paper No(s). _____
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

Reissue Applications

Status of the Claims

Claims 26 - 31, 33 - 35, 45 - 47, 49-59 are pending.

Claims 26 and 33 have been amended.

Claims 1- 25, 32, and 36-44 have been canceled.

On Grounds of Prior art

Claims 26 - 31 and 33 are rejected.

Claim 34 is under objection.

Claims 35, 45 - 47, 49-59 are allowed.

On Grounds of Reissue Formalities

Claims 26 - 31, 33 - 35, 45 - 47, 49-59 are rejected.

Reopening of Prosecution

1. The indicated allowability of claims 26 - 31, 33 - 35, 45 - 47, 49-59 is withdrawn in view of the newly discovered reference(s). Rejections based on the newly cited reference(s) follow, PROSECUTION IS HEREBY REOPENED.

Reissue Formalities

2. This offer to surrender the original patent was located in application 08/724,947.

3. This application is objected to under 37 CFR 1.172(a) as the assignee has not established its ownership interest in the patent for which reissue is being requested. An assignee must establish its ownership interest *in order to support the consent to a reissue application required by 37 CFR 1.172*(a). The submission establishing the ownership interest of the assignee is informal. There is no indication of record that the party who signed the submission is an appropriate party to sign on behalf of the assignee. 37 CFR 3.73(b).

A proper submission establishing ownership interest in the patent, pursuant to 37 CFR 1.172(a), is required in response to this action.

The person who signed the submission establishing ownership interest is not recognized as an officer of the assignee, and he/she has not been established as being authorized to act on behalf of the assignee. See MPEP § 324.

4. A certificate of correction is required for RE37431 which is a reissue of application 08/724,947.

5. The reissue oath/declaration filed with this application is defective because it fails to contain a statement that ***all*** errors which are being corrected in the reissue application up to the time of filing of the oath/declaration arose without any deceptive intention on the part of the applicant. See 37 CFR 1.175 and MPEP § 1414.

NOTE: The Declaration is a copy of the original Declaration filed in 08/724,947. The errors identified may no longer apply and amendments have been made which require a supplemental Declaration.

35 U.S.C. 251

6. Claims 26 - 31, 33 - 35, 45 - 47, 49-59 are rejected under 35 USC 251 as being based on a defective reissue declaration (see paragraph above).

Broader Claims

7. Claims 26 - 31 and 33 are rejected under 35 U.S.C. 251 as being improperly broadened in a reissue application made and sworn to by the assignee and not the patentee. These claims cover the enabling technology of visual environments and are not specific to the invention of an Intelligent Help System. The rejection below is made in view of the Common Knowledge in the enabling art and will clarify the position of the Office.

Common Knowledge in the Art

Basic Mechanism of Event Handling in a Visual Environment

8. The invention is related to visual programming environments. Specifically the addition of an "Intelligent Help System" to a visual environment. The Examiner holds the enabling technology which the invention is an addition is taught by the August 8, 1985 article from IEEE Transactions on Software Engineering, volume SE-11, Number 8, pages 699-713, "Extending State Transition Diagrams for the Specification of Human-Computer Interaction", by Antony I Wasserman. The reference was reprinted in "Visual Programming Environments Paradigms and

Systems", by Ephriam P. Glinert. A collection of papers from the 1980's, republished as a text book August 31,1990. The page numbers used are based on the page numbers from the Glinert publication.

The Wasserman article on page 100 (first page) covers details of a project that started in 1975 and involves an ".. interface that can take many forms, including multiple choices (menu selection), a command language, a database query language, or natural language like input". Furthermore, the article mentions " ...the normal action of the program is determined by user input, and the program may respond in a variety of ways, including results, requests for additional input, error messages, or assistance in the use of the system". The internal structure of the system is shown in diagram throughout the article. The diagrams on page 101, 106, 107, 109, 110 and 111 when taken with the supporting text teach the enabling technology of the invention.

Updating the Visual Environment base on Use

The figures on pages 109 through 111 (emphasis on page 110) with the accompaning text teach adaptive Visual environments where ***help and error*** messages can be modified based on use, and provides query capability to databases (knowledge).

State Monitoring Event Handling in Visual Environments

The ability to monitor states in the article, "Extending State Transition Diagrams for the Specification of Human-Computer Interaction", by Antony I Wasserman teaches the enabling technology of monitoring state transition with the Transaction Diagram Interpreted (TDI). On page 100 (first page) in section II "User Interface Definition with Transaction Diagrams", point 2

"Completeness": the author states, "The notation had to be self contained, including user input, system output, and linkage to system operations (application code)". The following are considered part of the state transition monitoring of TDI, system state, machine state, an application state, an accessory state, and a component state, and part of the enabling technology.

Historic Queuing in Visual Environments

The invention also makes claim to another old and well known feature of visual environments. The ability to have *historic queuing* is commonly performed with the use of a stack data structure for the purpose of providing an UNDO feature. The 1986 article "Visual Programming Languages A Perspective and a Dimensional Analysis", by Nan C. Shu published in Visual Languages, covers some history of visual environments. On page 48 - 49, the Xerox Star System which was announced in April 1981 contained an UNDO feature (as listed on page 49).

The combination of the enabling technology and the historic queuing feature are deemed obvious to one of ordinary skill in the art, well prior to the filing date. Applicant is welcome to make arguments that they invented these enabling technology. Such arguments will be made in view of these dated teachings.

The invention takes the enabling technology outlined above and adds an inference engine (claims 34, 35, 45, 46, 57, 58 and 59) to enable the an "Intelligent Help System".

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 26 - 29, 31 and 33 are rejected under 35 U.S.C. 102(b) based upon a public use or sale of the invention. The article detailing the enabling technology is from IEEE Transactions on Software Engineering, volume SE-11, Number 8, pages 699-713, "Extending State Transition Diagrams for the Specification of Human-Computer Interaction", by Antony I **Wasserman** published August 8, 1985.

Claim 26

Wasserman anticipates a computer system (**Wasserman**, title - "... Human- Computer Interaction"), a method for selecting help messages for aiding a user of a computer program (**Wasserman**, page 109 and 110, Diagram SELECT - QUERY and HELP) comprising the steps of: storing a help information database (**Wasserman**, page 109 and 110, ADD and MODIFY and the INSERTED); monitoring a series of user-directed events from an input device (**Wasserman**, page 108, TDI); generating data indicating said series of use-directed events (**Wasserman**, page 109, the code related to the NODES are user directed events); storing said generated data in a knowledge base (**Wasserman**, page 109 - 110, ADD and MODIFY); testing said generated data against stored data said stored data stored for the purpose of analyzing said generated data to

determine appropriate help information (**Wasserman**, pages 109 - 110, the compare performed in lookup) and using the data indicating said series of user-directed events stored in the knowledge base to select help information from said help information database (**Wasserman**, page 109 - 110, the features of the diagram - emphasis on page 110).

Claim 27

The method of claim 26, wherein said monitoring step further comprises monitoring a system state (**Wasserman**, the TDI - described in Common Knowledge section and throughout the reference. The Wasserman reference must be taken as a whole).

Claim 28

The method of claim 27, wherein said monitoring a system state step further comprises monitoring a machine state, an application state, an accessory state, and a component state (**Wasserman**, the TDI handle monitoring the machine state is not an option, this is deemed inherent - if the machine is not running the Human - Computer Interaction can not take place. In theory this is known as the HALTING problem, the application state - page 100 Completeness (application code) and page 109 Actions shutdown and startup, accessory state and component - input device page 110 SELECT part of TDI).

Claim 29

The method of claim 26, wherein said monitoring step further comprises the steps of: registering an application's menubar updating state information; and updating a menubar (**Wasserman**, page 110, the diagram shows updating with add and page 100 Introduction states the adaptive nature as covered in the common knowledge of the art above in detail).

Claim 31

The method of claim 26 wherein said using step uses data indicating a series of user-directed events comprising at least two user-directed events (**Wasserman**, page 106 has a START and the end result of the action of starting - tracing through diagrams).

Claim 33

The method of Claim 26 or 31 wherein said series of user-directed events are events that are not necessarily related as being part of a particular command hierarchy (**Wasserman**, page 100, "self contained as being part of Completeness).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over The article detailing the enabling technology is from IEEE Transactions on Software Engineering, volume

SE-11, Number 8, pages 699-713, "Extending State Transition Diagrams for the Specification of Human-Computer Interaction", by Antony I **Wasserman** published August 8, 1985 in view of the 1986 article "Visual Programming Languages A Perspective and a Dimensional Analysis", by Nan C. **Shu** published as a reprinted article in the reference, "Visual Programming Environments Paradigms and Systems", by Ephriam P. Glinert. A collection of papers from the 1980's, republished as a text book August 31,1990. The page numbers used are based on the page numbers from the Glinert publication.

Claim 30

Wasserman teaches the underlying theory of visual development environment that handle user events and adaptive help systems but Wasserman does not focus on common features of visual development environment such as the method of claim 26, wherein said generating data step comprises generating an historical queue of said user directed events. It is **Shu** who teaches the method of claim 26, wherein said generating data step comprises generating an historical queue of said user directed events, by disclosing the some history of visual environments. On page 48 - 49 the Xerox Star System which was announced in April 1981 contained an UNDO feature (as listed on page 49). It is well known that UNDO features have a historical queue in order for them to be enabled. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Wasserman and Shu, because historic queues enable features such as UNDO and provide a more user friendly environment.

Allowable Subject Matter

13. The following refers to the allowable subject matter. Claim 34 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. If the limitations of 34 are rolled up in to independent claim 26 with the same distinguishing limitations found in independent claim 35 the claim is believed to be allowable.

14. Claim 35, 45 - 47, 49-59 are allowed.

The claimed invention distinguishes itself over the enabling technology by providing an inference engine in combination of the enabling technology.

The claims as listed are for review Applicant's review. In the event, the claims listed are not accurate the Applicant is requested to notify the Examiner of any discrepancies.

Claim 34

The method of claim 26, further comprising the steps of storing a plurality of rules for analyzing said generated data to determine appropriate help information and wherein said using step further comprises using an inference engine to test said rules against the data stored in the knowledge base to select appropriate help information.

Claim 35

A help information, system for aiding a user of a computer program comprising: a computer having a processor and a memory; an output device coupled to said computer; an input device coupled to said computer; monitoring means coupled to the input device for monitoring a

sequence of user-directed events; and for generating data indicating said events a knowledge base coupled to said monitoring means and stored in said memory, said knowledge base comprising said generate data, a plurality of rules for analyzing said generated data, to determine appropriate help information and a help information database for storing said appropriate help information; and inference engine means, coupled to said knowledge base , for applying said rules to said data to select appropriate help information for output by said output device to the user.

Claim 45

In a computer system, a method for aiding a user of a computer program comprising the steps of: storing help information database; monitoring a series of user-directed events from an input device; generating data indicating said series of user-directed events; storing said generated data in a knowledge base; storing a plurality of rules for analyzing said generated data to determine appropriate help information; testing said rules against said generated data using an inference engine, whereby rules which are satisfied by said data are proved rules; selecting in response to the proved rules appropriate help information from said help information database; and displaying said selected help information to the user.

Claim 46

In a computer system, a method for aiding a user of a computer program comprising the steps of: storing a help information database; monitoring a series of user-directed events from an input device; generating data indicating said series of user-directed events; storing said generated data in a knowledge base; storing a plurality of rules for analyzing said generated data to determine

appropriate help information; detecting a request for help information from the user; testing said rules against said generated data using an inference engine whereby rules which are satisfied by said data are proved rules; selecting in response to the proved rules appropriate help information from said help information database; and displaying said selected help information to the user.

Claim 47

The method of claim 45 or 46, wherein said monitoring step further comprises monitoring a system state.

Claim 48

The method of claim 47, wherein said monitoring a system state step further comprises monitoring a machine state, an application state, an accessory state and a component state.

Claim 49

The method of claim 45 or 46 wherein said monitoring step further comprises the steps of: registering an application's menubar; updating a state information; and updating a menubar.

Claim 50

The method of claim 45 or 46, wherein said testing step comprises the steps of: (a) selecting from said plurality of rules a first group of rules corresponding to a first plurality of user-directed events; (b) attempting to prove each rule in said first group of rules; (c) if a rule is proved storing said rule as a proved rule in a plurality of proved rules; and (d) repeating steps (a)-(c) for a subsequent group of rules until a rule is proved.

Claim 51

The method of claim 50, wherein step (b) comprises attempting to match a premise with each of said first group of rules with said generated data.

Claim 52

The method of claim 50, wherein step (c) comprises: if a rule is proved, storing said rule as a proved rule in a plurality of linked proved rules.

Claim 53

The method of claim 45 or 46, wherein said generating data step comprises generating an historical queue of said user-directed events.

Claim 54

The method of claim 45 or 46 wherein said rule storing step comprises storing premise-conclusion statements from said help information database.

Claim 55

The method of claim 45 or 46 wherein said displaying step comprises displaying textual help information to the user.

Claim 56

The method of claim 45 or 46 wherein said displaying step comprising displaying graphical help information to the user.

Claim 57

The method of claim 45 or 46 wherein said testing step comprises testing said rules against said generated data using backward-chaining inference engine.

Claim 58

The method of claim 45 or 46 wherein said testing step comprises testing rules against said generated data using a forward-chaining inference engine.

Claim 59

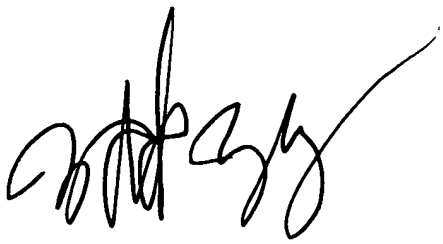
In a computer system, a method for aiding a user of a computer program comprising the steps of: storing a help information database; storing a knowledge base for maintaining data; identifying a series of user-directed events; comparing said identified series with data stored in the knowledge base; if said identified series is unknown to said knowledge base, asserting in said knowledge base data for indicating said unknown identified series; if said identified series contradicts said knowledge base, retracting in said knowledge base data which contradicts said identified series ; if said identified series is already known to said knowledge base, reasserting in said knowledge base data for indicating said already known identified series; storing a plurality of rules for analyzing said knowledge base to determine appropriate help information; testing said rules against said knowledge from the user; testing said rules against said knowledge base using an inference engine, whereby rules which are satisfied by data stored in the knowledge base are proved rules; selecting in response to said testing step appropriate help information from said help information database; and displaying said selected help information to the user.

Correspondence Information

15. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to **Todd Ingberg** whose telephone number is **(703) 305-9775.** The Examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the **Examiner's Supervisor, Leo Picard** can be reached at **(703)308-0538.** Any response to this office action should be mailed to: **Director of Patents and Trademarks Washington, D.C. 20231**, or **Hand-delivered** responses should be brought to **Crystal Park II, 2121 Crystal Drive Arlington, Virginia, (Receptionist located on the fourth floor),** or **faxed.** The following **fax numbers** apply:

After Final	**(703) 746 - 7238**
Official	**(703) 746 - 7239**
Non Official/ Draft	**(703) 746 -7240**



Todd Ingberg

Patent Examiner/ Art Unit 2122

December 28, 2001